

Nov 13, 2011

Hello CCC Supervisors.

There still seems to be some confusion over the changes in the field testing requirements for the reduced pressure principle backflow prevention assembly (RP).

The 3.0 psi minimum buffer requirement is no longer required for the RP. See attached conversation with Paul Schwartz, P.E. Paul is the Chief Engineer at the Foundation for Cross-Connection Control and Hydraulic Research at University of Southern California.

The second confusion is with the information collected for the differential pressure across check valve #2 in the RP. Originally we started testing CV #2 to determine if the correct spring was installed.

The RP can still be tested and pass if there is a slight leak in the outlet shut-off valve. This will be apparent when the tester is recording the relief valve opening point. If there is a slight leak the tester must install a by-pass hose from test cock #1 to test cock #4. This will compensate for the leak and allow the relief valve to open. The tester is also performing the required backpressure test on check valve #2

If there is any flow through the assembly, the value for check valve #2 is incorrect. This value will be higher than the correct value. It is suggested this information is not required.

There are only four required tests for the RP.

1. Check Valve #1 must hold tight.
2. The relief valve must open before the needle on the gauge drops below 2.0 psig.
3. Check valve #2 must hold tight when subjected to backpressure.
4. Check Valve #1 must be a minimum of 5.0 psig.

We do check for flow through the assembly to determine if the outlet shut-off valve may be leaking.

These tests are NOT required:

1. A differential pressure test across check valve #2.
2. A test to determine if the relief valve is fully open.
3. A test to determine if backpressure is present.

If there is a leak in the outlet shut-off valve, then the differential across check valve #2 is very inaccurate and is NOT recorded. In fact, a leaking check valve #2 may show on the gauge as passing when it actually may be leaking.

Paul Schwartz, P.E., Chief Engineer at the Foundation for Cross-Connection Control and Hydraulic Research at U.S.C., has covered these changes in his presentations at past UF-TREEO Center conferences.

Hydraulics of Backflow by Paul Schwartz, PE, Chief Engineer at the Foundation for Cross Connection Control at U.S.C

<http://www.nobackflow.com/Hydraulics of Backflow Paul Schwartz.pdf>

Please contact me if you still have questions.

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